

PATENT APPLICATION
Serial No. 10/069,362
Paper Dated: August 7, 2006
Attorney Docket No.: 131545.41501 (Formerly 128346.41501)

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the present application.

Claims 1-31 are cancelled.

32. (New) A method for changing a color of a brown natural diamond, comprising:

placing the brown natural diamond in a pressure transmitting medium, wherein the brown natural diamond is Type IaB, Type IaA/B, Type IaA or Type Ib diamond;

consolidating the pressure transmitting medium into a pill;

exposing the pill to an elevated pressure of at least 10 kilobars and an elevated temperature of greater than 1500°C within the graphite stable or diamond stable range of the carbon phase diagram for a time sufficient to change the color of the diamond; and

recovering the diamond, wherein the recovered diamond has a color.

33. (New) The method of claim 32, wherein the brown natural diamond has a total nitrogen concentration less than 500 ppm.

34. (New) The method of claim 33, wherein the recovered diamond has a concentration of A Centers that is less than 50 ppm.

35. (New) The method of claim 32, wherein the recovered diamond has a total concentration of nitrogen that is less than 50 ppm.

36. (New) The method of claim 33 wherein the recovered diamond has a concentration of C Centers that is less than 2 ppm.

37. (New) The method of claim 32, wherein the brown natural diamond has platelets.

38. (New) The method of claim 32, wherein the color of the recovered diamond is a neon yellow-green color, a yellowish green color, or a greenish yellow color.

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39. (New) The method of claim 32, wherein the exposing generates vacancies in the diamond.

40. (New) The method of claim 32, wherein the exposing increases the ratio of H3 Centers to A Centers in the recovered diamond as compared to the brown natural diamond.

41. (New) The method of claim 32, wherein the elevated temperature is 3500° C or less and the elevated pressure is from about 10 kilobars to about 100 kilobars.

42. (New) The method of claim 41, wherein the elevated temperature is at least about 1700° C.

43. (New) The method of claim 41, wherein the elevated temperature is at least about 2000° C.

44. (New) The method of claim 32, wherein the pressure transmitting medium is thermally and chemically stable at HP/HT and comprises a material selected from the group consisting of a salt, an oxide, and a graphite.

45. (New) The method of claim 32, wherein the elevated temperature and elevated pressure are maintained from 30 seconds to 96 hours.

46. (New) The method of claim 32, wherein the elevated temperature and elevated pressure are maintained from about 5 minutes to about 1 hour.

47. (New) A method for changing the color of a brown natural diamond comprising:

placing the brown natural diamond in a pressure transmitting medium, wherein the brown natural diamond is Type IaB, Type IaA/B, Type IaA or Type Ib diamond;

subjecting the pressure transmitting medium containing the brown natural diamond to a sufficiently high pressure and high temperature for a time sufficient to change the color of the diamond to a fancy color; and

recovering the diamond.

48. (New) The method of claim 47, wherein the recovered diamond has a final concentration of A Centers less than 50 ppm.

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49. (New) The method of claim 47, wherein the recovered diamond has a final concentration of C Centers less than 2 ppm.

50. (New) The method of claim 47, wherein the subjecting generates vacancies in the diamond.

51. (New) The method of claim 47, wherein the recovered diamond has an increased ratio of H3 Centers to A Centers as compared to the brown natural diamond.

52. (New) The method of claim 47, wherein the fancy color of the recovered diamond is a neon yellow-green color, a yellowish green color, or a greenish yellow color.

53. (New) The method of claim 47, wherein the high temperature is greater than 1500° C.

54. (New) The method of claim 53, wherein the high temperature is at least about 1700° C.

55. (New) The method of claim 53, wherein the high temperature is at least about 2000° C.